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Work Order									-			Page 1
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Item Name: Start Date: Required Date: Reference:	Crosstube Fw 5/20/2010 6/7/2010	Start Qty: 1.00 Req'd Qty: 1.00			Cust Item l Customer:	ID:				Stop		1888 18 1781 1881
Approvals:	Process Pla	an: //	Date:	Tooling: SPC (Y/N):		ate:		F	Run	Start Stop		
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CNC Bend 2 CNC Alpha 160 Ben	der	BENDING MACHINI Memo Bend as p	E - CROSSTUBES her Dwg D2889 using CNC b	0.00 0.00 ender program	>			(X)	_&	L	<u>~B</u>	10-05-5
130		QC15- Crosstube Dim	ensional Check	0.00								

Memo

Quality Control

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Thursday, May 20, 2010 9:06:49 AM

Item ID:

D205-596-105

Accept

Setup Start

Stop



Revision ID:

Item Name:

Crosstube Fwd Extended

Start Date: Required Date: 6/7/2010

5/20/2010

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Start Run

QC:

Date:_____

SPC (Y/N):

0.00

Date:

Stop

Sequence ID/ **Work Center ID**

Crosstubes

Crosstubes

Operation Description

Set Up/ **Run Hours** Draw Number

Draw Rev.

Plan Code

Accept Qty

Reject Qty

Reject

Insp. Number Stamp

Crosstubes

R morte cut line at 32.600"

Memo 6 0.00

1-Cut as per Dwg D205-596-105 MB 10-05-2 4

2-Deburr & Inspect for surface damage. Polish cut surface. Scribe part # and — AVM 16-5-28 batch # on one end of tube.

Quality Control

QC15- Crosstube Dimensional Check

Memo

0.00

0.00

160

HandFXtube

Crosstubes Chemical Conversion

0.00

Memo

0.00

Hand Finishing Crosstubes

14440							· · · · · · · · · · · · · · · · · · ·		
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SprayPaint		Memo			0.00						10			- \
Spray Painting		1-Prime insid	e and outsi	de with Immro	n per QSI 005 4.2	مانده در است. در المستواحد ال	;	.•		.•			·	
180 		QC14- Inspect Spray Pain	t		0.00									(i
QC Quality Control		Memo			0.00					<u> </u>	(0 -	06 -	02	(K)
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190 		Crosstubes			0.00				J	1				_
Crosstubes		Memo			0.00				_ <i>]</i> W	L	10	So	02	(I)

1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area

with 41058 wash 'n' wipe

2- Apply magnobond 6398 as per dwg D205-596-105 Magnobond 6398

Batch: 1(4021 EXP: 01/201)

3- Inst Torque; M 10.06-03

Crosstubes

-a	Dart	Aero	space	Ltd
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Work Order ID 58933

Thursday, May 20, 2010 9:06:49 AM



Page 4

Item ID:

D205-596-105

Accept

Setup Start



Revision ID:

Item Name:

Crosstube Fwd Extended

Start Date:

5/20/2010

Start Oty: 1.00

Required Date: 6/7/2010

Req'd Qty: 1.00



Date: ____

Cust Item ID:

Customer:

Draw

Number

Reference:

Approvals:

Process Plan:

Date:

Tooling: SPC (Y/N): Date:

Date:

Run

Start

Stop

(4/6/90)

Stop



Sequence ID/ **Work Center ID**

200

Quality Control

Operation Description

QC5- Inspect part completeness to step on W/O

Set Up/

Run Hours

Draw Rev.

Plan Accept Code Otv

Reject **Qty**

Reject Number

Insp. Stamp

Memo

0.00

0.00

0.00

0.00

210

Packaging

Packaging

Packaging

Memo

Identify and pack for shipping as per PPP D205-596-105

Location:

PPP Rev:

220

Quality Control

QC21- Final Inspection - Work Order Release

Memo

0.00

0.00

10/06/07 AST 10-6-7

W/O:			W	ORK ORI	DER CHAN	GES					•
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Picklist Print

Thursday, May 20, 2010 9:06:53 AM

Work Order ID: 58933

D205-596-105



Parent Item:

Comments:

Parent Item Name: Crosstube Fwd Extended

IPP Rev:D□05.03.21□Added bending procedure□KJ/JLM

IPP Rev:E 08-01-10 ECN 1075

Page 1

Start Date: 5/20/2010

Required Date: 6/7/2010

Start Qty: 1.00

Required Qty: 1.00

IPP Rev F 08.0	4.28 Added bend	ding &	mat'l EC	verified b	y: DD						
Component Item ID/ Replacemen D6005-180	t Mfg/ Manufactured	Bin No	Primary	Last	Route 110	Unit of Each	Qty on 9.0000	Qty per Kit	Qty	Date	Status
Crosstube Material									MB	10-05	-25
			Location		Loc	<u>Qty</u>	Loc Code		_		
			LG	9734		9 9		_			
D2893-1	Manufactured	No)	190	Each	51.0000	2			
2.75 Support			Location		Loc	<u>Qty</u>	Loc Code			1	
			LG			51				M(10	.06.02
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MS21920-25	Purchased	No	3	0334	190	20 Each	69.0000	_			
	1 di chascu	110			190	Lacii	09.0000			٠	
Clamp(per MIL-DTL-8783C)										1	-
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Picklist Print

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Page 2

Work Order ID: 58933

Parent Item:

D205-596-105

Parent Item Name:

Crosstube Fwd Extended

Comments:

IPP Rev:D□05.03.21□Added bending procedure□KJ/JLM IPP Rev:E 08-01-10 ECN 1075 DD

IPP Rev F 08.04.28

Added bending & mat'l

EC verified by: DD

Start Date: 5/20/2010

Required Date: 6/7/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/

Replacement Mfg/ D3595-063-450

Manufactured

Primary Bin No

Last

Route

190

Unit of Each

Qty on 58.5790 Qty per Kit Qty

Status

RUBBER CUSHION

Location

LG

53775 58161

Loc Qty 58.57897368

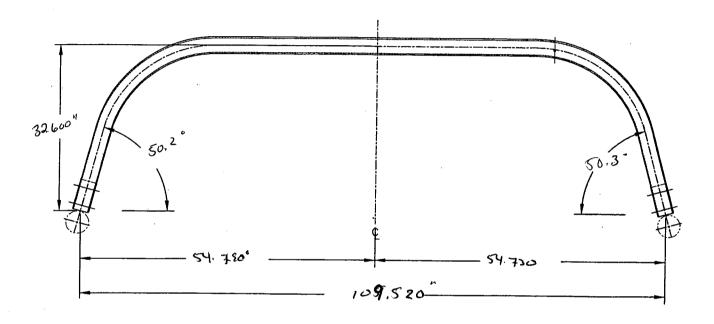
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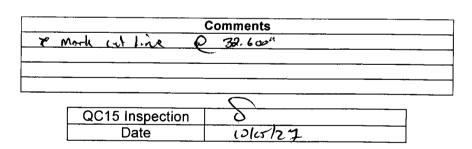
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DART AEROSPACE LTD	Work Order:	57933
Description: Crosstube High-High Fwd	Part Number:	D205-596-105
Inspection Dwg: D205-596-105 Rev: B		Page 1 of 1

Required Dimension	Min	Max
Height	32.4	32.6
1/2 Span	54.6	54.8
Angle	49	52
Total Span	109.2	109.6





Rev	Date	Change	Revised by	Approved
_ A	07.02.06	New Issue	KJ/JM	1
B	08.04.21	Dwg Rev updated	KJ/JM	ha
			78	

Dart Aerospa	ce Ltd
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PARTS LIST:

Qty	Part Number	Description
X	D205-596-105	CROSSTUBE ASSEMBLY, HI-HI FWD
1	D6005-180	CROSSTUBE
2	D2893-1	SUPPORT
4	D3595-063-450	RUBBER CUSHION
	14004000 05	014440
4	MS21920-25	CLAMP
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

1) MATERIAL: MANUFACTURE FROM D6005-180 FINISHED LENGTH = 134.40 ± 0.02

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART 005 4.2

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: N/A

6) IDENTIFICATION: SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS

7) WEIGHT: 40 lbs

8) PART IS SYMMETRIC ABOUT CENTERLINE

9) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.

10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

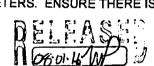
11) APPLY A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.

12) INSTALL MS21920-25 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE D2893-1 SUPPORT ON THE TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE CROSSTUBE SUPPORT.

NOTE: IT IS ACCEPTABLE TO SUBSTITUTE MS21920-25 CLAMPS WITH LONGER (MS21920-26) OR SHORTER (MS21920-24) CLAMPS TO ACCOMODATE VARYING DIAMETERS. ENSURE THERE IS A MINIMUM OF 1.5 THREADS IN SAFETY ON THE NUTS.

13) TORQUE CLAMPS 80 TO 100 IN-LB

DEO ATTACHED



В	851 AB	RASION STRIP	NOBONDED; REMOVE D2856-600- P; UPDATED NOTES; ADDED ION; MS21920-25 WAS MS21920-24	МВ	07.12.03		
Α	NEW IS	SUE		DS	02.11.20		
REV.			DESCRIPTION	BY	DATE		
DESIGN			DART AEROSPA	ACE	LTD		
DRAWN			HAWKESBURY, ONTARIO, CANADA				
CHECKE	ED	PH	DRAWING NO.	-	REV. B		
MFG. AF	PPR.	8	D205-596-105	HEET 1 OF 2			
APPRO\	VED	-#	TITLE				
DE APPR.			CROSSTUBE ASSEMBLY, HI-HI FWD NTS				
DATE	07.1	2.03	COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONTIDENTAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOU WRITTEN PERMISSION FROM DART AEROSPACE LTD.				

SHOP COPY RETURN TO ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

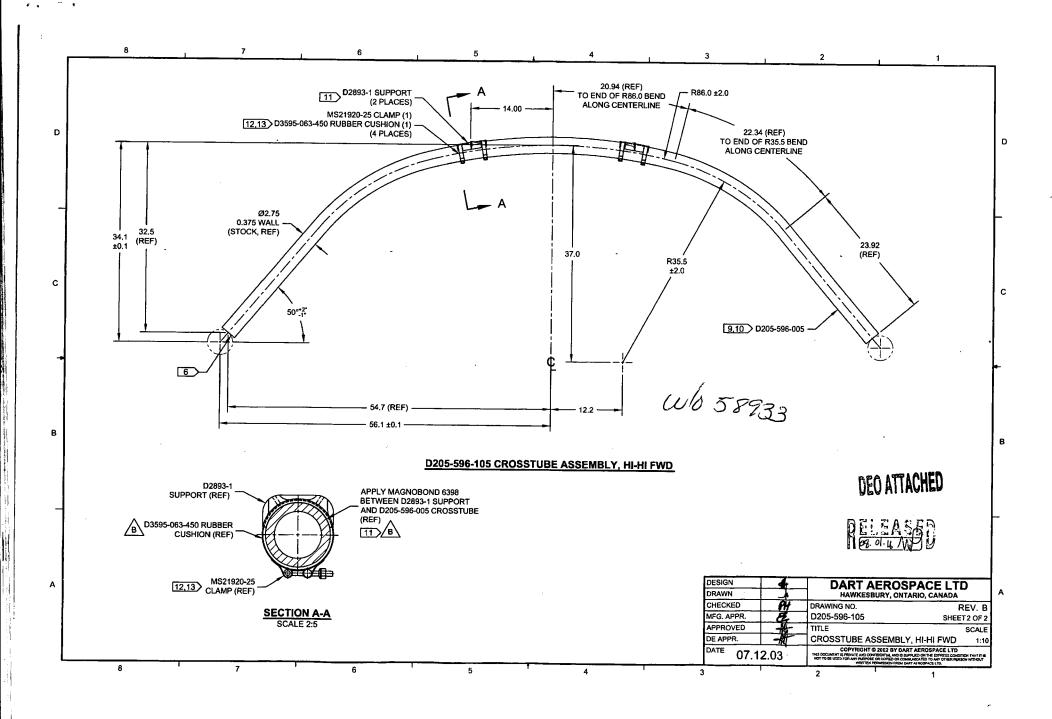
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WORK ORDER NO. 58933

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DRAWING	NO.	TITLE		REV. B	DART AERO	SPACELTO	D.E.O. NO.		SHEET NO.	SCALE
D205-59	96-105	CROSSTUBE			ENGINEER			105-B-1	SHEET 1 OF 1	SCALE NTS
DRAWN	P	(CHECKED	P#	MFG. APPR.	ALI	APPROVED /		DE APPR.	1410
DATE	09.05.	01 [ATE	09.05.15	DATE OT	06/22	DATE #	3/06/22	DATE 09.06.22	

CHANGE:

ADD THE FOLLOWING CROSSTUBE ASSEMBLY:

Part Number	Description
D205-596-105B	CROSSTUBE ASSEMBLY (214 HI-HI FWD)

THE D205-596-105B CROSSTUBE HAS THE SAME PARTS LIST AS THE D205-596-105 CROSSTUBE. HOWEVER, INSTALL THE SUPPORTS AS SHOWN IN FIGURE 1 OF THIS ENGINEERING ORDER. THE NEW KIT IS OTHERWISE ASSEMBLED PER THE D205-596-105 CROSSTUBE.



W/0 58933

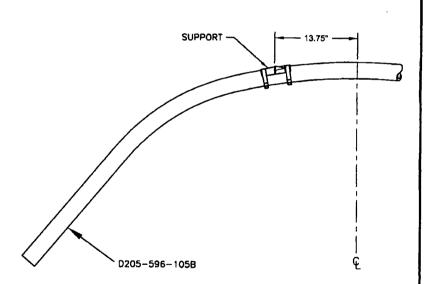


FIGURE 1 - SUPPORT INSTALLATION

Dart Aerospace Li

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